

WHAT IS CLAIMED IS:

1. A pressure sensitive adhesive comprising:
a silicone tackifying resin;
a polydiorganosiloxane polyurea copolymer; and
a plasticizer;
wherein the silicone tackifying resin and polydiorganosiloxane polyurea copolymer
are generally uniformly distributed.
2. The pressure sensitive adhesive of claim 1 wherein the silicone tackifying resin is
present in an amount of at least about 55 wt-%, based on the weight of the silicone
tackifying resin and the polydiorganosiloxane polyurea copolymer.
3. The pressure sensitive adhesive of claim 2 wherein the silicone tackifying resin is
present in an amount of at least about 58 wt-%, based on the weight of the silicone
tackifying resin and the polydiorganosiloxane polyurea copolymer.
4. The pressure sensitive adhesive of claim 1 wherein the plasticizer is a hydrocarbon.
5. The pressure sensitive adhesive of claim 1 wherein the plasticizer is a glycol ether,
an ester, an alcohol, an ester alcohol, a ketone, an amine, or an organic substituted silicone
oil.
6. The pressure sensitive adhesive of claim 1 wherein the plasticizer is an ester, an
oil, an organosiloxane, or combinations thereof.
7. The pressure sensitive adhesive of claim 1 wherein the plasticizer is an antioxidant,
a bacteriostatic agent, a UV light stabilizer, a UV light absorber, or combinations thereof.
8. The pressure sensitive adhesive of claim 1 wherein the plasticizer is present in an
amount of at least about 0.5 wt-%, based on the total weight of the pressure sensitive
adhesive.

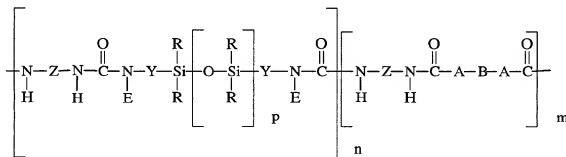
9. The pressure sensitive adhesive of claim 1 which is a solvent-based adhesive.

10. The pressure sensitive adhesive of claim 1 wherein the polydiorganosiloxane polyurea copolymer is the reaction product of a polydiorganosiloxane polyamine with a polyisocyanate.

11. The pressure sensitive adhesive of claim 10 wherein the polydiorganosiloxane polyurea copolymer is the reaction product of a polydiorganosiloxane polyamine with a polyisocyanate and a polyfunctional chain extender.

12. The pressure sensitive adhesive of claim 11 wherein the polyamine is a polydiorganosiloxane diamine.

13. The pressure sensitive adhesive of claim 1 wherein the polydiorganosiloxane polyurea copolymer comprises the following repeating unit:



where:

each R is independently an alkyl moiety, a vinyl moiety or higher alkenyl moiety, a cycloalkyl moiety, an aryl moiety, or a fluorine-containing group;

each Z is independently a polyvalent moiety that is an arylene moiety, an aralkylene moiety, an alkylene moiety, or a cycloalkylene moiety;

each Y is independently a polyvalent moiety that independently is an alkylene moiety, an aralkylene moiety or an arylene moiety;

each E is independently hydrogen, an alkyl moiety of 1 to 10 carbon atoms, phenyl, or a moiety that completes a ring structure including Y to form a heterocycle;

each A is independently oxygen or $-N(G)-$, wherein each G is independently hydrogen, an alkyl moiety of 1 to 10 carbon atoms, phenyl, or a moiety that completes a ring structure including B to form a heterocycle;

B is an alkylene, aralkylene, cycloalkylene, phenylene, polyalkylene, polyalkylene oxide, copolymers, or mixtures thereof, or a moiety completing a ring structure including A to form a heterocycle;

m is a number that is 0 to about 1000;

n is a number that is equal to or greater than 1; and

p is a number that is about 5 or larger.

14. The pressure sensitive adhesive of claim 13 wherein at least 50% of the R moieties are methyl moieties with the balance being monovalent alkyl or substituted alkyl moieties having 1 to 12 carbon atoms, alkenylene moieties, phenyl moieties, or substituted phenyl moieties.

15. The pressure sensitive adhesive of claim 13 wherein m is a number that is 0 to about 25.

16. The pressure sensitive adhesive of claim 13 wherein n is a number that is greater than 8.

17. The pressure sensitive adhesive of claim 13 wherein p is a number that is about 70 to about 1500.

18. A pressure sensitive adhesive comprising:
a silicone tackifying resin;
a polydiorganosiloxane polyurea copolymer; and
a plasticizer;

wherein the silicone tackifying resin and polydiorganosiloxane polyurea copolymer are generally uniformly distributed; and

wherein the silicone tackifying resin is present in an amount of at least about 55 wt-%, based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea copolymer.

19. A pressure sensitive adhesive solution comprising:

a silicone tackifying resin;

a polydiorganosiloxane polyurea copolymer;

a processing aid; and

an organic solvent.

20. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is transient.

21. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is permanent.

22. The pressure sensitive adhesive solution of claim 19 wherein the silicone tackifying resin is present in an amount of at least about 55 wt-%, based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea copolymer.

23. The pressure sensitive adhesive solution of claim 22 wherein the silicone tackifying resin is present in an amount of at least about 58 wt-%, based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea copolymer.

24. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is a hydrocarbon.

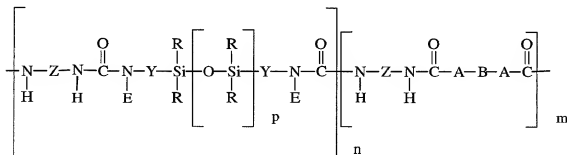
25. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is a glycol ether, an ester, an alcohol, an ester alcohol, a ketone, an amine, or an organic substituted silicone oil.

26. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is an ester, an oil, an organosiloxane, or combinations thereof.

27. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is an antioxidant, a bacteriostatic agent, a UV light stabilizer, a UV light absorber, or combinations thereof.

28. The pressure sensitive adhesive solution of claim 19 wherein the processing aid is present in an amount of at least about 0.5 wt-%, based on the total weight of the pressure sensitive adhesive.

29. The pressure sensitive adhesive solution of claim 19 wherein the polydiorganosiloxane polyurea copolymer comprises the following repeating unit:



where:

each R is independently an alkyl moiety, a vinyl moiety or higher alkenyl moiety, a cycloalkyl moiety, an aryl moiety, or a fluorine-containing group;

each Z is independently a polyvalent moiety that is an arylene moiety, an aralkylene moiety, an alkylene moiety, or a cycloalkylene moiety;

each Y is independently a polyvalent moiety that independently is an alkylene moiety, an aralkylene moiety or an arylene moiety;

each E is independently hydrogen, an alkyl moiety of 1 to 10 carbon atoms, phenyl, or a moiety that completes a ring structure including Y to form a heterocycle;

each A is independently oxygen or $-N(G)-$, wherein each G is independently hydrogen, an alkyl moiety of 1 to 10 carbon atoms, phenyl, or a moiety that completes a ring structure including B to form a heterocycle;

B is an alkylene, aralkylene, cycloalkylene, phenylene, polyalkylene, polyalkylene oxide, copolymers, or mixtures thereof, or a moiety completing a ring structure including A to form a heterocycle;

m is a number that is 0 to about 1000;

n is a number that is equal to or greater than 1; and

p is a number that is about 5 or larger.

30. An adhesive article comprising a backing and the pressure sensitive adhesive of claim 1 disposed on at least one major surface thereof.

31. The adhesive article of claim 30 which is a transfer tape.

32. An adhesive article comprising a backing and the pressure sensitive adhesive of claim 18 disposed on at least one major surface thereof.

33. The adhesive article of claim 32 which is a transfer tape.

34. An adhesive article comprising a backing and a pressure sensitive adhesive deposited from the solution of claim 19 disposed on at least one major surface thereof.

35. The adhesive article of claim 34 which is a transfer tape.

36. A method of making a pressure sensitive adhesive comprising combining a silicone tackifying resin, a polydiorganosiloxane polyurea copolymer, and a processing aid in amounts effective to form a pressure sensitive adhesive wherein the silicone tackifying resin and polydiorganosiloxane polyurea copolymer are generally uniformly distributed.

37. The method of claim 36 wherein the silicone tackifying resin, polydiorganosiloxane polyurea copolymer, and processing aid are combined in an organic solvent.

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38. The method of claim 37 wherein the processing aid is transient.

39. The method of claim 37 wherein the processing aid is permanent.

10 40. The method of claim 36 wherein the processing aid is permanent.

41. The method of claim 36 wherein the processing aid is an antioxidant, a bacteriostatic agent, a UV light stabilizer, a UV light absorber, or combinations thereof.

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